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ABSTRACT

Part of this report gives the 1974-75 survey findings and distribution of quality point average (QPA) of the 44 programs set up under Pennsylvania's Higher Education Equal Opportunity Program (Act 101) established in 1971. The program is supported entirely by State funds which are distributed to postsecondary degree granting institutions to maintain learning and special counseling services for disadvantaged undergraduate students. The report also provides an analysis of the relative effectiveness of the tutoring and counseling aspects of the Act 101 programs in Pennsylvania's institutions of higher education. It covers specifically the design of the study and findings. The findings are discussed separately as follows: (1) tutoring effectiveness by institutional category; (2) counseling effectiveness by institutional category; (3) institutional ranking for tutoring; (4) institutional ranking for counseling; and (5) patterns of overall program effectiveness. It is concluded that there is a positive correlation between hours of intervention (either tutoring or counseling) and achievement (quality point average). (Author/MC)

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HIGHER EDUCATION EQUAL OPPORTUNITY PROGRAM 1974-75 ANNUAL REPORT

Pennsylvania Department of Education 1976

HIGHER EDUCATION EQUAL OPPORTUNITY PROGRAM 1974-75 ANNUAL REPORT

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PART I

HIGHER EDUCATION EQUAL OPPORTUNITY ACT SURVEY OF ACT 101 POPULATION CHARACTERISTICS 1974-1975

INTRODUCTION

Pennsylvania's Higher Education Equal Opportunity Program (Act 101), established in 1971 as Public Law 423, provides "for Commonwealth support for institutions of higher education to furnish learning and special counseling services for undergraduate students whose cultural, economic and educational disadvantages impair their initial ability to pursue successfully higher education opportunities...."

The program is supported entirely by state funds, which are distributed to postsecondary degree-granting institutions to maintain supportive services for eligible program enrollees. Grant awards to institutions are made through an annual proposal review process. Applications for grant funds include a description of the nature and the method by which all funds granted will be used to advance the chances of economically and educationally disadvantaged students achieving their educational goals. Funds provided by the act may not be used to pay tuition, room and board or other institutional costs or fees incurred by students. Tuition and board needs are met wherever possible by a combination of scholarship and loan funds available under the provisions of the Pennsylvania Higher Education Assistance Agency, federal funds and private resources of the institution. Rather, programs for which such grants are awarded include, but are not limited to, remedial learning services, counseling services and tutorial services.

Act 101 participants are chosen on the basis of their potential, motivation and goals. Eligible students include Pennsylvania residents whose adjusted family income is $8,000 or less and whose academic quality point average is predicted to be less than 2.0.

Act 101 is administered by the Department of Education through the Bureau of Equal Opportunity. The Pennsylvania State Board of Education is responsible for establishing its guidelines and policies. Each institution participating in the Act 101 Program has a project director and supportive staff as well as an advisory board.

1974-75 Survey Findings

The data presented below is compiled from the semiannual and final progress reports submitted by 44 Act 101 programs during the 1974-75 grant year. This data is presented as a survey of the characteristics for a total population of 5,259 students served during the grant period. The correlation study to measure the tutoring and counseling effects, found in Part II of this report, is based upon a representative sample of this same population.

Ethno-Racial Distribution

Black	57%
White	35%
Spanish Surnamed	6%
Oriental	1%

Age Distribution

17-under	4.1%
18-21	76.5%
22-25	10.3%
26-over	9.1%

Sex Distribution

Male	51%
Female	49%

Marital Status

Single	90.6%
Married	6.1%
Other	3.2%

Academic Level Distribution

Freshman	56%
Sophomore	26%
Junior	11%
Senior	7%

Type of Residence Distribution

On Campus Dorm	50.3%
Off-Campus Approved Housing	5.9%
Fraternity/Sorority	1.3%
Private Housing	12.1%
Parents' Home	30.0%

Parental Income Distribution

$ 0 - 2,999	14.8%
3,000 - 5,999	27.4%
6,000 - 7,499	22.6%
7,500 - 8,999	13.5%
9,000 - up	21.7%

Income by Ethno-Racial Distribution

	Black	White	Spanish Surnamed	Oriental	Other
$ 0 - 2,999	62.9%	29.3%	5.2%	.7%	1.9%
3,000 - 5,999	62.4%	25.4%	11.0%	.6%	.6%
6,000 - 7,499	64.6%	31.3%	3.4%	.2%	.5%
7,500 - 8,999	52.0%	44.6%	2.4%	1.0%	--
9,000 - up	57.9%	38.3%	2.2%	.6%	1.0%

Distribution by Major Field of Study

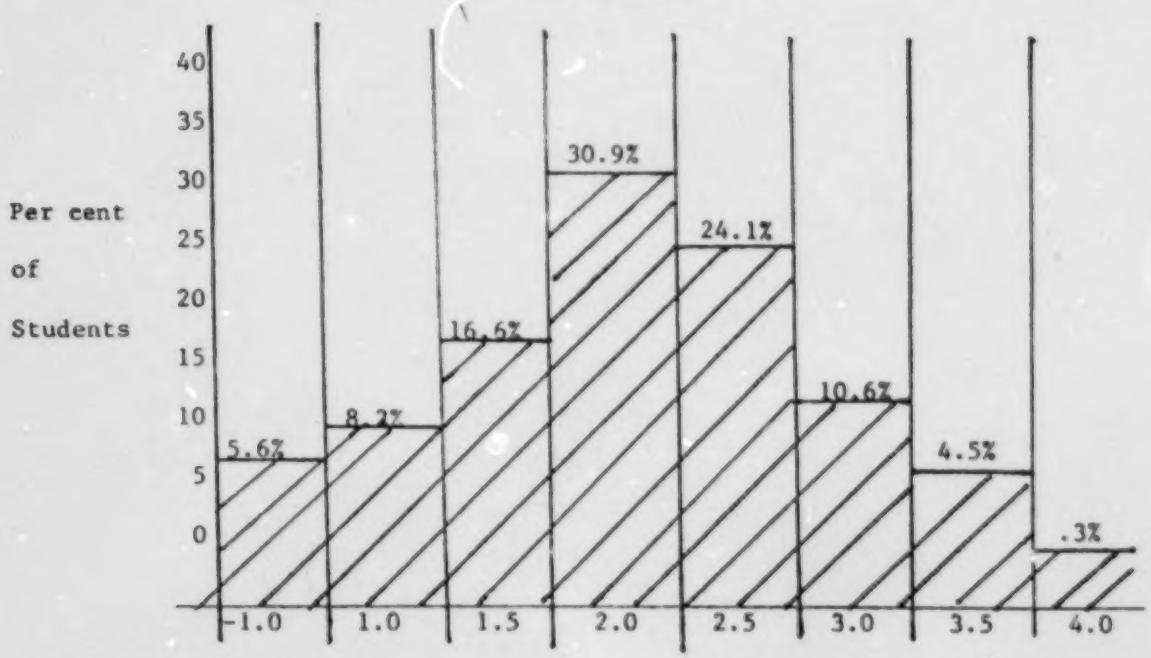
1.	Business	12.0%	17.	Math	1.6%
2.	Social Sciences	11.7%	18.	Law	1.5%
3.	Undeclared	10.7%	19.	Computer Sciences	1.1%
4.	Secondary Ed.	7.7%	20.	Foreign Languages	1.1%
5.	Elementary Ed.	7.4%	21.	Corrections	.9%
6.	Health Related Professions	7.2%	22.	Special Sciences	.7%
			23.	Home Economics	.7%
7.	Fine Arts	6.4%	24.	Child Care	.6%
8.	Engineering	6.2%	25.	Secretarial	.3%
9.	Psychology	3.4%	26.	Textile Engineering	.2%
10.	Nature Sciences	3.3%	27.	General	.2%
11.	Special Education	3.2%	28.	Commercial Art	.2%
12.	Public Affairs	2.7%	29.	Agriculture	.1%
13.	Letters	2.5%	30.	Electronics	.1%
14.	Communications	2.2%	31.	Drafting	.04%
15.	Liberal Arts	2.1%	32.	Theology	.04%
16.	Physical Sciences	1.9%	33.	Transportation	.02%

QPA Distribution

Freshman Class		Sophomore Class	
4.0	.4%	4.0	.1%
3.5	4.0%	3.5	4.0%
3.0	10.8%	3.0	12.0%
2.5	22.0%	2.5	24.0%
2.0	25.6%	2.0	33.0%
1.5	17.0%	1.5	19.9%
1.0	11.4%	1.0	5.0%
under 1.0	8.8%	under 1.0	2.0%

Junior Class		Senior Class	
4.0	.3%	4.0	.3%
3.5	4.0%	3.5	8.0%
3.0	6.0%	3.0	8.3%
2.5	30.0%	2.5	31.2%
2.0	43.0%	2.0	41.3%
1.5	12.0%	1.5	9.2%
1.0	3.7%	1.0	1.7%
under 1.0	1.0%	under 1.0	--

Combined QPA - All Students



Retention Rate Information

Survey Population	- 5,259
Act 101 Graduates	- 284
Number Leaving School (other than graduation)	- 645
Number Leaving Project (satisfactory academic progress)	- 189
Number Leaving Project (other)	- 37

Leaving out the graduating class and counting in those students who left the project but not the institution, the retention rate for Act 101 students is: 83%

PART II

AN ANALYSIS OF THE RELATIVE EFFECTIVENESS OF THE TUTORING AND COUNSELING ASPECTS OF THE ACT 101 PROGRAMS IN PENNSYLVANIA'S INSTITUTIONS OF HIGHER EDUCATION

INTRODUCTION

This study has been conducted by the Bureau of Information Systems in response to a request from the Bureau of Equal Opportunity, Pennsylvania Department of Education. It attempts to evaluate the effectiveness of tutoring and counseling within the Act 101 programs of each participating institution of higher education in the Commonwealth. Usable data was available for 42 of 44 existing programs.

Since all eligible "academically disadvantaged" students were enrolled in the Act 101 program, it was not possible to compare the program enrollees with a control group of disadvantaged students who are not in the program. As a consequence, the study has compared the overall effectiveness of the various institutional programs. The findings should enable the Bureau of Equal Opportunity to identify successful and unsuccessful programs with regard to their tutoring and counseling efforts.

Careful analysis of such programs may permit the identification of program characteristics associated with effectiveness, and these may, in turn, guide the institutions in their efforts to improve their Act 101 programs.

Design of the Study

All institutions with Act 101 programs were asked to provide data on half of their Act 101 participants to date, i.e., every second student on their lists. Those programs with fewer than 50 students were asked to provide data on all students in the program.

Since a 50 per cent sampling is likely to be quite accurate and statistics based on a population will be absolutely accurate, unless a large portion of the subjects have been rejected, the accuracy of the results should be quite high.

This study uses the statistical correlation between two variables with the effect of extraneous variables removed from the observed correlation. This technique, known as "partial correlation," is useful because it makes it possible to statistically control variables that cannot be manipulated experimentally. For example, it is not possible to assign a given level of intelligence or family income to a subject as one would assign hours of practice or a certain degree of illumination. Such variables are not subject to experimental control, but may have important effects on the phenomenon under examination.

Normally, the observed correlation between two variables will be reduced when the effect of a third extraneous variable is removed. The issue is whether there is a significant relationship between the two variables when the extraneous variable's effect is statistically removed.

In this study, the basic relationship to be examined is the correlation between hours of intervention (either tutoring or counseling) and achievement (overall quality point average to date).

It is obvious that those program participants who are graduates or seniors will tend to receive higher grades and will have had more opportunity for tutoring or counseling services than freshmen or sophomores. As a consequence, it was necessary to remove, by partial correlation, the effect of the positive relationship between the quality point average and academic level (freshman, sophomore, junior, senior, graduate).

It is equally obvious there might be a positive correlation between intelligence and grades, a negative correlation between intelligence and hours of tutoring or counseling, and a relationship between the student's socioeconomic status as determined by family income and his/her academic achievement. Removing the effects of these variables should allow the evaluator to say that any tutoring and counseling effects found were not dependent on levels of intelligence or socioeconomic status.

Finally, since the effect of each of the two forms of intervention under analysis was the object of concern, it was thought desirable to remove the effect of counseling when the effect of tutoring is the object of concern and remove the effect of tutoring when the effect of counseling is the objective.

In sum, the findings of this study are based upon correlations that indicate what the relationship between tutoring hours and the quality point average or the relationship between counseling hours and the quality point average would have been if all of the program participants had been (1) at the same level academically, (2) had been intellectually equal in verbal and mathematical aptitude (or in general aptitude, in some instances), (3) had had the same family income and (4) had been exposed to exactly the same amount of hours of the alternate intervention variable.

Partial correlations were obtained for each Act 101 program as a whole. High and positive correlations indicate that a program's tutoring or counseling efforts seem to have had a marked positive effect on academic achievement, and high and negative correlations suggest that the tutoring or counseling had little, if any, effect.

The more positive or less negative the correlations, the more effective the tutoring or counseling can be said to be. It would seem reasonable to expect that the most disadvantaged would need the most tutoring or counseling and that the least disadvantaged would require the least amount of intervention. If so, then the expected typical relationship between hours of such intervention should normally be substantial and negative, i.e., the more tutoring the individual receives, other things being equal (statistically controlled), the lower the achievement level is likely to be, unless the tutoring or counseling has been effective enough to reduce or reverse this relationship.

Findings

Tutoring Effectiveness by Institutional Category

Table 1 summarizes the partial correlational findings concerning the impact of the tutoring aspect of the Act 101 programs in various institutions, and it indicates the size of the sample from which the data to be analyzed was drawn. For example, Slippery Rock State College sent data on 32 individuals (original sample);

30 of them had data available concerning the number of tutoring hours they had received (available sample), but only 28 of the program enrollees had a complete set of all seven variables needed for the computation of the partial correlation (statistic sample). This statistic sample was 87.5 per cent as large as the original sample, indicating that only 12.5 per cent of the individual enrollees had been lost due to a lack of data.

The institutions shown in Table 1 provided a high proportion of usable data, with the exception of the Harrisburg Area Community College (29.6%), the Philadelphia College of Textiles and Science (36.1%), Elizabethtown College (27.6%) and, to a lesser degree, Bloomsburg State College (49.0%). Findings for these institutions must therefore be viewed with some caution.

Institutions are listed in Table 1 according to category and in order of their effectiveness from most to least effective. The institutional median of the obtained partial correlations is also shown for each type of institution. For instance, the average (median) partial correlation for community colleges was 0.06 and the Community College of Allegheny County was an average (typical) institution in this category, but the Community College of Beaver County the most effective. The highest category median correlation was .06 for the community colleges, followed by .03 for state-owned colleges, -.06 for state-related universities and finally -.13 for private colleges and universities.

Overall, the average (median) program had a partial correlation of -.045 for tutoring hours, suggesting that the institutions, on the average, were nearly able to reverse the expected negative pattern and could therefore be considered as successful in their efforts.

Seven of the 13 (53.9%) state-owned institutions had programs that reversed the expected pattern, one of the four (25.0%) state-related universities had programs that did so, and four of 19 (21.1%) private colleges and universities had programs that produced a reversal, while the community colleges had an impressive figure of four out of five (80.0%) institutions reversing the expected negative relationship to a positive "effective" one. Obviously, the community colleges and the state-owned colleges and universities have, on the whole, been the most effective in their tutoring efforts.

Counseling Effectiveness by Institutional Category

Table 2 similarly summarizes the findings for counseling and academic achievement. Here again we find the community colleges to have a higher median institutional correlation ($r = .06$) and a higher proportion of positive rather than negative correlations (60%) than the other types of institution. Again the state-owned institutions ranked second in effectiveness ($r = .01$), with 46.2 per cent of the 13 state-owned institutions having positive partial correlations.

In contrast to Table 1, Table 2 shows the private colleges to be, on the average, stronger than the state-related universities in their counseling efforts ($r = -.015$) with seven of the 18 (38.9%) private institutions listed as showing a positive rather than a negative correlational relationship. This contrasts with a median correlation of -.095 for the state-related programs where only one of the programs (25%) was found to have reversed the expected negative relationship pattern.

Table 1

Sample Sizes, Percentage of Sample Utilized and Tutor Effect Partial Correlation Findings by Institution and Type of Institution

Institution	Original Sample[a] (#)	Available Sample[b] (#)	Statistic Sample[c] (#)	Per cent of Original Sample[d] (%)	Tutoring Correlation (r)
I. State-Owned Colleges and Universities					
Slippery Rock	32	30	28	87.5	.57**
Millersville	82	82	67	81.7	.27***
Kutztown	50	50	43	86.0	.20
Clarion	52	52	47	90.4	.13
Mansfield	23	23	15	65.2	.06
West Chester	45	45	42	93.3	.05
California	85	52	44	51.8	.03
Cheyney	119	119	107	89.9	-.02
Indiana	118	118	84	71.2	-.02
Lock Haven	29	29	25	86.2	-.02
East Stroudsburg	66	66	54	81.8	-.18****
Edinboro	73	73	49	67.1	-.26***
Bloomsburg	51	51	25	49.0	-.40***
State-Owned Median r					.03
II. State-Related Universities					
Lincoln University	198	198	195	98.5	.13***
Temple University	73	68	64	87.7	-.05
University of Pittsburgh	28	28	23	82.1	-.07
Penn State University	110	110	99	90.0	-.13
State-Related Median r					-.06
III. Community Colleges					
C.C. Beaver Co.	157	157	130	82.8	.16***
C.C. Delaware Co.	16	16	15	93.8	.08
C.C. Allegheny Co.	89	89	70	78.7	.06
Northampton Co. Area C.C.	66	66	60	90.9	.01
Harrisburg Area C.C.	54	54	16	29.6	-.04
C.C. Philadelphia	--	--	--	--	N.A.
Community College Median r					.06

* .001 level of significance
** .01 level of significance
*** .05 level of significance
**** .10 level of significance

Table 1
(contd.)

Institution	Original Sample [a] (#)	Available Sample [b] (#)	Statistic Sample [c] (#)	Per cent of Original Sample [d] (%)	Tutoring Correlation (r)
IV. Private Colleges and Universities					
Bryn Mawr	14	14	12	85.7	.30
Widener	46	46	40	87.0	.20
Chestnut Hill	39	39	31	79.5	.07
Carnegie-Mellon	134	134	130	97.0	.03
Mercyhurst	41	41	32	78.0	-.02
Phila. Col. Text. & Sci.	72	72	26	36.1	-.06
Swarthmore	37	37	29	78.4	-.07
Carlow	21	21	17	81.0	-.09
Seton Hill	55	55	41	74.5	-.09
College Misericordia	42	42	31	73.8	-.13
Gannon	33	33	32	97.0	-.13
Marywood	44	44	38	86.4	-.18
Drexel University	95	94	92	96.8	-.25**
St. Joseph's	18	18	17	94.4	-.25
Phila. College of Art	39	39	26	66.7	-.28****
St. Vincent	27	27	14	51.9	-.29
Phila. Musical Academy	20	20	16	80.0	-.30
Elizabethtown	29	29	8	27.6	-.39
Villanova University	46	46	44	95.7	-.54*
Private College Median r					-.13

[a] Number of data sets received for individuals in program. Where the number is less than 50, the number represents the total population and hence any correlation found is likely to be highly accurate regardless of the level of significance unless the "Statistic Sample" figure is very much smaller as in the case of the Harrisburg Area Community College, the Philadelphia College of Textiles and Science and Elizabethtown College.

[b] The number of individuals for whom data on hours of tutoring was available. Note here that no analysis is shown for Shippensburg State College although data was received. Analysis was not possible because virtually all of Shippensburg's Act 101 program enrollees were indicated as having been given exactly the same amount of tutoring in terms of hours.

[c] The number of individual data sets actually used to compute the partial correlation.

[d] The proportion the statistical sample of note c is of the original sample (note a), i.e., has much data been lost due to the constraints of the partial correlation technique.

[e] The obtained partial correlation with intelligence, parental income and hours of counseling held constant. The more positive the correlation the more effective the tutoring is presumed to be in helping the individual achieve a higher Quality Point Average.

Table 2

Sample Sizes, Percentage of Sample Utilized and Counseling Effect Partial Correlation Findings by Institution and Type of Institution

Institution	Original Sample [a] (#)	Available Sample [b] (#)	Statistic Sample [c] (#)	Per cent of Original Sample [d] (%)	Counseling Correlatic (r)
I. State-Owned Colleges and Universities					
Bloomsburg	51	51	25	49.0	.38***
California	85	83	44	51.8	.14
Edinboro	73	73	49	67.1	.12
West Chester	45	45	42	93.3	.12
Clarion	52	52	47	90.4	.03
East Stroudsburg	66	66	54	81.8	.01
Cheyney	119	119	107	89.9	-.02
Indiana	118	118	84	71.2	-.02
Slippery Rock	30	30	28	93.3	-.04
Lock Haven	29	29	25	86.2	-.06
Mansfield	23	23	15	65.2	-.09
Kutztown	50	50	43	86.0	-.11
Millersville	82	82	67	81.7	-.38*
State-Owned Median r					.01
II. State-Related Universities					
Lincoln University	198	198	195	98.5	.16**
University of Pittsburgh	28	28	23	82.1	-.07
Penn State University	110	110	99	90.0	-.12
Temple University	73	70	64	87.7	-.14
State-Related Median r					-.095
III. Community Colleges					
C.C. Delaware Co.	16	16	15	93.8	.19
Harrisburg Area C.C.	54	54	16	29.6	.08
C.C. Philadelphia	68	68	67	98.5	.06
Northampton Co. Area C.C.	66	66	60	90.9	-.12
C.C. Beaver Co.	157	157	130	82.8	-.56*
Community College Median r					.06

* .001 level of significance
** .01 level of significance
*** .09 level of significance
**** .10 level of significance

Table 2
(Contd.)

Institution	Original Sample [a] (#)	Available Sample [b] (#)	Statistic Sample [c] (#)	Per cent of Original Sample [d] (%)	Counseling Correlation [e] (r)
IV. Private Colleges and Universities					
St. Vincent	27	27	14	51.9	.25
Elizabethtown	29	29	8	27.6	.10
Villanova University	46	46	44	95.7	.08
Widener	46	46	40	87.0	.08
Phila. College of Art	39	39	26	66.7	.05
Mercyhurst	41	41	32	78.0	.03
St. Joseph's	18	18	17	94.4	.00
Chestnut Hill	39	39	31	79.5	-.01
Seton Hill	55	55	41	74.5	-.01
Drexel University	95	95	92	96.8	-.02
Carlow	21	21	17	81.0	-.05
Carnegie-Mellon	134	134	130	97.0	-.13****
Phila. Musical Academy	20	20	16	80.0	-.17
Gannon	33	33	32	97.0	-.22
Col. Misericordia	42	42	31	73.8	-.38***
Bryn Mawr	14	14	12	85.7	-.42
Marywood	44	44	38	86.4	-.46**
Swarthmore	37	36	29	78.4	-.58*
Phila. Col. Text. & Sci.	--	--	--	--	N.A.
Private College Median r					-.015

[a] Number of data sets received for individuals in program. Where the number is less than 50, the number represents the total population and hence any correlation found is likely to be highly accurate regardless of the level of significance unless the "Statistic Sample" figure is very much smaller as in the case of the Harrisburg Area Community College or Elizabethtown College.

[b] The number of individuals for whom data on hours of counseling was available. Note here that no analysis is shown for Shippensburg State College although data was received. Analysis was not possible because virtually all of Shippenburg's Act 101 program enrollees were indicated as having been given the same number of hours of counseling.

[c] The number of individual data sets actually used to compute the partial correlation.

[d] The proportion the statistical sample of note c is of the original sample (note a), i.e., has much data been lost due to the constraints of the partial correlation technique.

[e] The obtained partial correlation with intelligence, parental income and hours of tutoring held constant. The more positive the correlation the more effective the counseling effort is presumed to be in helping a student achieve academically as measured by the Quality Point Average.

In Table 2 we find the same institutions as in Table 1 lacking in the amount of usable data, i.e., Harrisburg Area Community, Elizabethtown and Bloomsburg State.

Institutional Ranking-Tutoring

Table 3 summarizes the relative position of the 42 Act 101 programs with regard to their tutoring effectiveness. The most effective program, as indicated by a high positive correlation between hours of tutoring and quality point average, seems to be that of Slippery Rock State College (rank of 1.0) with an impressive partial correlation of 0.57 significant at the .01 level. Only one time in a hundred would we expect to get as large a correlation by chance alone. Lower but still substantial, positive correlations are found for the next seven listed in the Table. Table 3 shows that some of these correlations are significant while other larger values are not. This is a statistical effect caused by the number in the sample. The smaller the number of cases, the larger a correlation must be to reach statistical significance. It should be noted, however, that where a correlation is based upon data provided by institutions with fewer than 50 program participants, correlation is likely to be very accurate in value wherever the subjects constituted a complete population. Little or no variation is possible under these circumstances unless a great deal of data was missing. These population-based correlations are indicated by an asterisk in place of the level of significance figure in both Tables 3 and 4.

Institutional Ranking-Counseling

Table 4 ranks all of the 40 institutions that reported a separate counseling program according to the positiveness of the partial correlation obtained between hours of counseling and quality point average to date.

Bloomsburg State College ranks first in effectiveness with a correlation of 0.38, significant at the .05 level. This finding strongly contrasts with Bloomsburg's standing in Table 3 where the college ranked second from the bottom. In Table 4 are institutions with smaller but still substantial positive partial correlations.

Patterns of Overall Program Effectiveness

Lincoln University has a positive correlation for both tutoring and counseling although each correlation is not as strong as for some other institutions. Obviously, however, the various programs can be similarly categorized on the basis of the observed patterns of positive or negative partial correlation. Table 5 summarizes these correlational patterns. Lincoln University, for example, is found under the pattern labeled "Institutions with Strong Programs in Both Tutoring and Counseling." These strong programs, as a whole, have had a median institutional correlation of 0.11 for tutoring and a correlation of 0.13 for counseling. All 42 Act 101 programs are similarly categorized in Table 5.

Table 3

Act 101 Programs Ranked According to Presumed Effectiveness of the Tutoring Effort Offered in Each Program as Reflected by the Partial Correlation of Table 1

Rank	Partial Correlation	Level of Significance	Institution
1	.57	.01(*)	Slippery Rock
2	.30	*	Bryn Mawr
3	.27	.05	Millersville
4.5	.20	n.s.	Kutztown
4.5	.20	*	Widener
6	.16	.05	C. C. of Beaver County
7.5	.13	n.s.	Clarion
7.5	.13	.05	Lincoln
9	.08	*	C. C. of Delaware County
10	.07	*	Chestnut Hill
11.5	.06	*	Mansfield
11.5	.06	n.s.	C. C. of Allegheny County
13	.05	*	West Chester
14.5	.03	n.s.	California
14.5	.03	n.s.	Carnegie-Mellon
16	.01	n.s.	Northampton Area C. C.
18.5	-.02	n.s.	Cheyney
18.5	-.02	n.s.	Indiana
18.5	-.02	*	Lock Haven
18.5	-.02	*	Mercyhurst
21	-.04	n.s.	Harrisburg Area C. C.
22	-.05	n.s.	Temple
23	-.06	n.s.	Phila. College of Textiles & Sc.
24.5	-.07	*	University of Pittsburgh
24.5	-.07	*	Swarthmore
26.5	-.09	*	Carlow
26.5	-.09	n.s.	Seton Hill
29	-.13	n.s.	Pennsylvania State University
29	-.13	*	College Misericordia
29	-.13	*	Gannon
31.5	-.18	.10	East Stroudsburg
31.5	-.18	*	Marywood
33.5	-.25	*	St. Joseph's
33.5	-.25	.01	Drexel
35	-.26	.05	Edinboro
36	-.28	.10(*)	Phila. College of Art
37	-.29	*	St. Vincent
38.5	-.30	*	Phila. Musical Academy
40	-.39	*	Elizabethtown
41	-.40	.05	Bloomsburg
42	-.54	.001(*)	Villanova

*Indicates that the correlation is based upon a population rather than a sample and is, therefore, likely to be highly accurate since, with the exception of Elizabethtown College (28%), the Philadelphia College of Textiles & Science (36%) and the Harrisburg Area Community College (30%), the proportion of the population sampled to obtain the partial r statistic is substantial in all cases, i.e., ranges from 52% to 97%.

Table 4

Act 101 Programs Ranked According to Presumed Effectiveness of the Counseling Offered in Each Program as Reflected by the Partial Correlation of Table 2

Rank	Partial Correlation	Level of Significance	Institution
1	.38	.05	Bloomsburg
2	.25	*	St. Vincent
3	.19	*	C. C. of Delaware County
4	.16	.01	Lincoln
5	.14	n.s.	California
6.5	.12	n.s.	Edinboro
6.5	.12	*	West Chester
8	.10	*	Elizabethtown
10	.08	*	Harrisburg Area C. C.
10	.08	*	Villanova
10	.08	*	Widener
12	.06	n.s.	C. C. of Philadelphia Co.
13	.05	*	Phila. College of Art
14.5	.03	*	Mercyhurst
14.5	.03	n.s.	Clarion
16	.01	n.s.	East Stroudsburg
17	.00	*	St. Joseph's
18.5	-.01	*	Chestnut Hill
18.5	-.01	n.s.	Seton Hill
21	-.02	n.s.	Cheyney
21	-.02	n.s.	Indiana
21	-.02	n.s.	Drexel
23	-.04	*	Slippery Rock
24	-.05	*	Carlow
25	-.06	*	Lock Haven
26	-.07	*	University of Pittsburgh
27	-.09	*	Mansfield
28	-.11	n.s.	Kutztown
29.5	-.12	n.s.	Pennsylvania State University
29.5	-.12	n.s.	Northampton Area C. C.
31	-.13	.10	Carnegie-Mellon
32	-.14	n.s.	Temple
33	-.17	*	Phila. Musical Academy
34	-.22	*	Gannon
35	-.38	.05(*)	College Misericordia
36	-.38	.001	Millersville
37	-.42	*	Bryn Mawr
38	-.46	.01(*)	Marywood
39	-.56	.001	C. C. of Beaver County
40	-.58	.001	Swarthmore

*Indicates that the correlation is based upon a population rather than a sample and is, therefore, likely to be highly accurate since, with the exception of Elizabethtown College (28%) and the Harrisburg Area Community College (30%) the proportion of the population sampled to obtain the partial r statistic is substantial in all cases, i.e., ranges from 52% to 97%.

Table 5

A Breakdown of the Institutional Act Programs According to Patterns of Strength or Weakness Reflected by the Partial Correlations and Rank Order for Tutoring and Counseling

Institution	Tutoring r	Counseling r	Tutoring rank	Counseling rank
I. Institutions with Strong Programs in Both Tutoring and Counseling				
Lincoln	.13	.16[b]	7.5	4.0
C. C. Delaware Co.	.08*	.19*	9.0	3.0
Widener	.20*	.08*	4.5	10.0
Clarion	.13	.03	7.5	14.5
West Chester	.05*	.12*	13.0	14.5
California	.03	.14	14.5	5.0
Institutional Median	.11	.13	8.3	5.8
II. Institutions with Strong Tutoring Programs				
Slippery Rock	.57[b](*)	-.04*	1.0	23.0
Kutztown	.20	-.11	4.5	28.0
Chestnut Hill	.07*	-.01*	10.0	18.5
Mansfield	.06*	-.09*	11.5	27.0
C. C. Allegheny Co.	.06	N.A.	11.5	N.A.
Institutional Median	.07	-.065	10.0	25.0
III. Institutions with Strong Counseling Programs				
Harrisburg Area C. C.	-.04	.08*	21.0	10.0
C. C. Philadelphia	N.A.	.06	N.A.	12.0
Mercyhurst College	-.02	.03	18.5	14.5
Institutional Median	-.03	.06	19.75	12.0
IV. Institutions with Strong Tutoring-- Weak Counseling Programs				
Bryn Mawr	.30*	-.42*	2.0	37.0
Millersville	.27[c]	-.38[a]	3.0	36.0
C. C. Beaver Co.	.16	-.56[a]	6.0	39.0
Carnegie-Mellon	.03	-.13[d]	14.5	31.0
Northampton Area C. C.	.01	-.12	16.0	29.5
Institutional Median	.16	-.38	6.0	33.5
V. Institutions with Strong Counseling-- Weak Tutoring Programs				
Bloomsburg	-.40[c]	.38[c]	41.0	1.0
St. Vincent	-.29*	.25*	37.0	2.0
Edinboro	-.26[c]	.12	35.0	6.5
Elizabethtown	-.39*	.10*	40.0	8.0
Villanova	-.54[a](*)	.08*	42.0	10.0
Philadelphia College of Art	-.28[d](*)	.05*	36.0	13.0
East Stroudsburg	-.18[d]	.01	31.5	16.0
Institutional Median	-.29	.10	37.0	8.0

Table 5
(continued)

	Institution	Tutoring r	Counseling r	Tutoring rank	Counseling rank
VI.	Institutions with Somewhat Weak Tutoring and Counseling Programs				
	Cheyney	-.02	-.02	18.5	21.0
	Indiana	-.02	-.02	13.5	21.0
	Phila. Col. Textiles & Science	-.06	N.A.	23.0	N.A.
	Seton Hill	-.09	-.01	26.5	18.5
	Lock Haven	-.02*	-.06*	18.5	25.0
	University of Pittsburgh	-.07*	-.07*	24.5	26.0
	Carlow	-.09*	-.05*	26.5	24.0
	Institutional Median	-.06	-.035	23.0	22.5
VII.	Institutions with Weak Tutoring and Somewhat Weak Counseling Programs				
	Drexel	-.25[b]	-.02	33.5	21.0
	St. Joseph's	-.25*	.00	33.5	17.0
	Institutional Median	-.25	-.01	33.5	19.0
VIII.	Institutions with Weak Counseling and Somewhat Weak Tutoring Programs				
	Swarthmore	-.07*	-.58*	24.5	40.0
	Marywood	-.18*	-.46[b](*)	31.5	38.0
	College Misericordia	-.13*	-.38[c](*)	29.0	35.0
	Gannon	-.13*	-.22*	29.0	34.0
	Temple	-.05	-.14	22.0	32.0
	Penn State University	-.13	-.12	29.0	29.5
	Institutional Median	-.13	-.30	29.0	34.5
IX.	Institutions with Weak Counseling and Tutoring Programs				
	Philadelphia Musical Academy	-.30	-.17	38.5	33.0
	Institutional Median	-.30	-.17	38.5	33.0

*Indicates that the correlation is based upon a population rather than a sample and, with the exception of Elizabethtown College and the Harrisburg Area Community College and the Philadelphia College of Textiles and Science for tutoring are highly accurate estimates.

[a].001 level of significance

[b].01 level of significance

[c].05 level of significance

[d].10 level of significance

[e]The strong programs are defined as those with positive correlations between grades received and hours of tutoring or counseling. The weak programs are defined as those for the bottom 10 institutions (most negative correlations) for either tutoring or counseling.

CONCLUSIONS

Though Act 101 programs vary widely overall, they could be considered effective in that relatively few Act 101 institutions had programs that yielded high negative correlations. There is, however, no way to positively demonstrate that a particular program has been successful or unsuccessful. The negative correlations do not prove any negligence on the part of the institutions involved. One can only arbitrarily say that in the case of a good program (actually, a better program) there is positive correlation between hours of intervention (either tutoring or counseling) and achievement (quality point average).

Using this criterion, one finds that the community colleges and the state-owned colleges, in particular, have been doing a good overall job of tutoring and counseling.

Since the correlations permit the identification of strong programs (high positive correlations) and weak programs (high negative correlations), one can readily cite certain Act 101 programs for intensive study of their distinguishing characteristics. Program directors may well use the findings to develop more uniformly effective Act 101 programs on all campuses.